

## **ABSTRACT**

A method for compensating for lens aberrations, which includes the steps of: (a) defining a cost metric which quantifies an imaging performance of an imaging system, where the cost metric reflects the effects of lens aberrations on the imaging performance; (b) defining a source illumination profile; (c) evaluating the cost metric based on the source illumination profile; (d) modifying the source illumination profile, and re-evaluating the cost metric based on the modified source illumination profile; and (e) repeating step (d) until the cost metric is minimized. The source illumination profile corresponding to the minimized cost metric represents the optimal illumination for the imaging device.

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